Price Correction Report
Week of July 23 – July 27, 2018

Overview

This document is intended to meet the requirements of ISO Tariff section 35.6, and provides the Market Participants with a summary of all price corrections that occured during the week. For example, report titled with May 5-9, 2014 will cover all corrections made during the week of May 5-9. In a normal situation, it will include trade dates that have price corrections which are due between May 5-9, 2014 based on the five business day for Real-Time market and three business day for Day-Ahead market.

The structure of the report is as follows:
- Price correction listing – this section includes a listing of all the corrections, including market intervals affected, locations, reason (which would tie back to the description of issues section), and method of price correction.
- Description of Issues – this section describes each issue which resulted in a correction in more detail.
- Price-fill report – metrics on the number of empty price intervals that were filled by adjacent interval prices, usually due to failed runs.

For the week covered by this report, **2653** intervals were corrected.

The trade dates covered by this report are:

DAM: 7/18/2018 – 7/24/2018
RTM: 7/16/2018 – 7/22/2018

Correction methodologies
The following are the definitions of the correction methodologies used:

Selective recalculation: The CAISO will selectively recalculate incorrect financially binding prices when the invalid prices are isolated and can be corrected such that no other financially binding prices are affected by the correction.

System recalculation: The CAISO will recalculate all prices for the invalidated market interval using corrected or recreated input data, or repaired software as applicable.

Replacement: If the above correction methods are not applicable and practicable, the CAISO shall use, in place of prices for the binding interval of an invalidated market solution, replicated prices from binding or advisory intervals from the validated market solution in which the market conditions were most similar to the market conditions in the invalidated market solution for the affected interval.

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Price Correction Listing

The following is a list of the corrections made during the week, sorted by date and time. The number to the left of the reason field corresponds to the issue number in the Description of Issues section. The count of corrected Pnode/Apnode for each corrected interval is listed left to the Affected Location field. In case of many intervals with the same correction reason, instead of providing the exact count of corrected Pnode/Apnode, the range of Pnode/Apnode affected is provided and listed in another table. Please note that there are only flex ramp prices corrections for those intervals that have the Count of Corrected Pnode/Apnode column missing.

Corrections made through selective recalculation: **2649**

Date	HE	Intervals	Market	#	Reason	Number of corrected Pnodes/Apnodes	Affected Area
16Jul2018	12	1-5,7-11	RTD	2	Software Defect	1	Local
16Jul2018	13	1-2	RTD	2	Software Defect	1	Local
16Jul2018	15	3	RTD	3,1	Software Defect	233	Local
16Jul2018	17	2-8	RTD	2	Software Defect	1	Local
16Jul2018	18	1-11	RTD	3	Software Defect	854	Local
16Jul2018	18	1-11	RTD	2	Software Defect	1	Local
16Jul2018	19	8-11	RTD	3	Software Defect	854	Local
16Jul2018	19	8-11	RTD	2	Software Defect	1	Local
16Jul2018	21	1	RTD	3,2,1	Software Defect	169	Local
16Jul2018	21	2-8,10-12	RTD	2	Software Defect	1	Local
16Jul2018	22	5	RTD	3,2,1	Software Defect	258	Local
16Jul2018	22	6-8	RTD	2	Software Defect	1	Local
16Jul2018	24	10	RTD	4,2,1	Data Input Error, Software Defect	304	Local
16Jul2018	24	11	RTD	4,1	Data Input Error, Software Defect	302	Local
16Jul2018	24	12	RTD	4,2,1	Data Input Error, Software Defect	302	Local
16Jul2018	24	1-9	RTD	2	Software Defect	1	Local
16Jul2018	16,23	1-12	RTD	2	Software Defect	1	Local
16Jul2018	18-19	12	RTD	3	Software Defect		Local
16Jul2018	13	1-2	RTPD	2	Software Defect	1	Local
16Jul2018	16	1,4	RTPD	2	Software Defect	1	Local
16Jul2018	17	2,4	RTPD	2	Software Defect	1	Local
16Jul2018	18	1	RTPD	3	Software Defect	2200	Local
16Jul2018	18	1,3-4	RTPD	2	Software Defect	1	Local
16Jul2018	18	2	RTPD	3	Software Defect	1357	Local
16Jul2018	18	3-4	RTPD	3	Software Defect	854	Local
16Jul2018	19	1-3	RTPD	3	Software Defect	854	Local
16Jul2018	23	1-2,4	RTPD	2	Software Defect	1	Local
16Jul2018	24	4	RTPD	4,2,1	Data Input Error, Software Defect	273	Local
16Jul2018	12,21-22	1-4	RTPD	2	Software Defect	1	Local
16Jul2018	19,24	1-3	RTPD	2	Software Defect	1	Local
17Jul2018	1	1	RTD	4,1	Data Input Error, Software Defect	289	Local
17Jul2018	1	3	RTD	4,1	Data Input Error, Software Defect	288	Local
17Jul2018	5	1-12	RTD	2	Software Defect	1	Local
17Jul2018	6	1-10	RTD	2	Software Defect	1	Local
17Jul2018	6	1-10	RTD	3	Software Defect	854	Local
17Jul2018	7	1-2,9,11	RTD	2	Software Defect	1	Local
17Jul2018	11	5	RTD	3,1	Software Defect	243	Local
17Jul2018	11	6	RTD	3,1	Software Defect	237	Local
17Jul2018	11	7	RTD	3,1	Software Defect	238	Local
17Jul2018	11	8	RTD	3,1	Software Defect	236	Local
17Jul2018	12	5	RTD	3	Software Defect	1357	Local

17Jul2018	13	11	RTD	3,1	Software Defect	241	Local
17Jul2018	15	11	RTD	2	Software Defect	1	Local
17Jul2018	17	10	RTD	4,2,1	Data Input Error, Software Defect	243	Local
17Jul2018	17	11	RTD	4,2,1	Data Input Error, Software Defect	259	Local
17Jul2018	17	12	RTD	4,2,1	Data Input Error, Software Defect	260	Local
17Jul2018	17	1-3,5-6	RTD	2	Software Defect	1	Local
17Jul2018	17	4	RTD	4,2,1	Data Input Error, Software Defect	244	Local
17Jul2018	17	7	RTD	4,2,1	Data Input Error, Software Defect	247	Local
17Jul2018	17	8-9	RTD	4,2,1	Data Input Error, Software Defect	248	Local
17Jul2018	18	1	RTD	4,1	Data Input Error, Software Defect	257	Local
17Jul2018	18	10	RTD	4,1	Data Input Error, Software Defect	279	Local
17Jul2018	18	11	RTD	4,1	Data Input Error, Software Defect	277	Local
17Jul2018	18	12	RTD	4,1	Data Input Error, Software Defect	286	Local
17Jul2018	18	2	RTD	4,1	Data Input Error, Software Defect	267	Local
17Jul2018	18	3-5	RTD	4,1	Data Input Error, Software Defect	252	Local
17Jul2018	18	6	RTD	4,3,1	Data Input Error, Software Defect	1173	Local
17Jul2018	18	7	RTD	4,1	Data Input Error, Software Defect	256	Local
17Jul2018	18	8	RTD	4,1	Data Input Error, Software Defect	262	Local
17Jul2018	18	9	RTD	4,1	Data Input Error, Software Defect	261	Local
17Jul2018	19	1	RTD	4,1	Data Input Error, Software Defect	250	Local
17Jul2018	19	2	RTD	4,1	Data Input Error, Software Defect	251	Local
17Jul2018	19	3	RTD	4,1	Data Input Error, Software Defect	272	Local
17Jul2018	19	4	RTD	4,1	Data Input Error, Software Defect	278	Local
17Jul2018	19	5	RTD	4,1	Data Input Error, Software Defect	284	Local
17Jul2018	19	6	RTD	4,1	Data Input Error, Software Defect	275	Local
17Jul2018	21	1-11	RTD	2	Software Defect	1	Local
17Jul2018	22	4	RTD	2	Software Defect	1	Local
17Jul2018	23	3-4	RTD	2	Software Defect	1	Local
17Jul2018	5	1-2,4	RTPD	2	Software Defect	1	Local
17Jul2018	6	1-3	RTPD	2	Software Defect	1	Local
17Jul2018	6	1-3	RTPD	3	Software Defect	854	Local
17Jul2018	10	3	RTPD	5	Data Input Error	1357	Local
17Jul2018	12	2-4	RTPD	3	Software Defect	1357	Local
17Jul2018	15	4	RTPD	2	Software Defect	1	Local
17Jul2018	17	3	RTPD	4,2,1	Data Input Error, Software Defect	275	Local
17Jul2018	17	4	RTPD	4,2,1	Data Input Error, Software Defect	253	Local
17Jul2018	18	1	RTPD	4,3,1	Data Input Error, Software Defect	1172	Local
17Jul2018	18	2	RTPD	4,3,1	Data Input Error, Software Defect	1174	Local
17Jul2018	18	3	RTPD	4,3,1	Data Input Error, Software Defect	1176	Local
17Jul2018	18	4	RTPD	4,3,1	Data Input Error, Software Defect	1185	Local
17Jul2018	19	1	RTPD	4,1	Data Input Error, Software Defect	279	Local
17Jul2018	19	2	RTPD	4,1	Data Input Error, Software Defect	270	Local
17Jul2018	19	3	RTPD	4,1	Data Input Error, Software Defect	281	Local
17Jul2018	19	4	RTPD	4,1	Data Input Error, Software Defect	267	Local
17Jul2018	17,23	1-2	RTPD	2	Software Defect	1	Local
17Jul2018	7,21	1-4	RTPD	2	Software Defect	1	Local
18Jul2018	1	3-6	RTD	2	Software Defect	1	Local
18Jul2018	10	5	RTD	3,1	Software Defect	234	Local
18Jul2018	10	6	RTD	3,1	Software Defect	225	Local
18Jul2018	11	2	RTD	3,1	Software Defect	215	Local
18Jul2018	11	4	RTD	3,1	Software Defect	214	Local
18Jul2018	16	12	RTD	6,1	Software Defect	549	Local
18Jul2018	18	10	RTD	3,1	Software Defect	230	Local
18Jul2018	18	11	RTD	3,1	Software Defect	163	Local
18Jul2018	18	12	RTD	3,1	Software Defect	176	Local
18Jul2018	18	2-3,5-9	RTD	2	Software Defect	1	Local
18Jul2018	19	3-4,6-7,10-12	RTD	2	Software Defect	1	Local
18Jul2018	19	5	RTD	3,2,1	Software Defect	244	Local
18Jul2018	19	8-9	RTD	3,2,1	Software Defect	239	Local

18Jul2018	20	5	RTD	3,1	Software Defect		233	Local
18Jul2018	22	1-3,5-7	RTD	2	Software Defect		1	Local
18Jul2018	23	2-5,10,12	RTD	2	Software Defect		1	Local
18Jul2018	21,24	1-12	RTD	2	Software Defect		1	Local
18Jul2018	1	4	RTPD	2	Software Defect		1	Local
18Jul2018	17	2	RTPD	5	Software Defect			Local
18Jul2018	18	1	RTPD	2	Software Defect		1	Local
18Jul2018	22	2-4	RTPD	2	Software Defect		1	Local
18Jul2018	19,21,23-24	1-4	RTPD	2	Software Defect		1	Local
19Jul2018	17	0	DA	4	Data Input Error		328	Local
19Jul2018	18	0	DA	4	Data Input Error		289	Local
19Jul2018	21	2-6,8-10,12	RTD	2	Software Defect		1	Local
19Jul2018	22	1-6	RTD	2	Software Defect		1	Local
19Jul2018	21	2	RTPD	2	Software Defect		1	Local
19Jul2018	22	1-4	RTPD	2	Software Defect		1	Local
20Jul2018	1	1-2,5-12	RTD	2	Software Defect		1	Local
20Jul2018	5	4-12	RTD	2	Software Defect		1	Local
20Jul2018	10	7-8	RTD	3,1	Software Defect		196	Local
20Jul2018	10	9	RTD	3,1	Software Defect		197	Local
20Jul2018	12	5	RTD	3,1	Software Defect		224	Local
20Jul2018	12	6	RTD	3,2,1	Software Defect		224	Local
20Jul2018	12	7-8,10-11	RTD	2	Software Defect		1	Local
20Jul2018	16	1-4,11-12	RTD	2	Software Defect		1	Local
20Jul2018	20	2	RTD	3,1	Software Defect		235	Local
20Jul2018	20	3	RTD	3,1	Software Defect		250	Local
20Jul2018	20	4	RTD	3,1	Software Defect		233	Local
20Jul2018	20	6	RTD	3,1	Software Defect		246	Local
20Jul2018	23	2-3	RTD	3	Software Defect		1357	Local
20Jul2018	24	2	RTD	3,1	Software Defect		260	Local
20Jul2018	24	3	RTD	3,1	Software Defect		271	Local
20Jul2018	2,7	1-12	RTD	2	Software Defect		1	Local
20Jul2018	1	1	RTPD	2	Software Defect		1	Local
20Jul2018	2	2-4	RTPD	2	Software Defect		1	Local
20Jul2018	16	1-2	RTPD	2	Software Defect		1	Local
20Jul2018	1,23	1	RTPD	3	Software Defect		1357	Local
20Jul2018	5,7,12,21	1-4	RTPD	2	Software Defect		1	Local
21Jul2018	2	6	RTD	3,1	Software Defect		266	Local
21Jul2018	2	7	RTD	3,1	Software Defect		254	Local
21Jul2018	8	1-5	RTD	2	Software Defect		1	Local
21Jul2018	11	11	RTD	3,1	Software Defect		212	Local
21Jul2018	11	12	RTD	3,1	Software Defect		95	Local
21Jul2018	13	3	RTD	5	Software Defect		534	Local
21Jul2018	16	1-12	RTD	2	Software Defect		1	Local
21Jul2018	16	1-12	RTD	3	Software Defect		854	Local
21Jul2018	21	4	RTD	3,1	Software Defect		260	Local
21Jul2018	21	5-6	RTD	3,1	Software Defect		270	Local
21Jul2018	22	5-12	RTD	2	Software Defect		1	Local
21Jul2018	23	11	RTD	3,1	Software Defect		223	Local
21Jul2018	23	12	RTD	3,2,1	Software Defect		217	Local
21Jul2018	23	1-8	RTD	2	Software Defect		1	Local
21Jul2018	24	1	RTD	3,1	Software Defect		226	Local
21Jul2018	24	2	RTD	3,1	Software Defect		250	Local
21Jul2018	24	3	RTD	3,1	Software Defect		188	Local
21Jul2018	24	4-6,8	RTD	3	Software Defect		181	Local
21Jul2018	24	7	RTD	3	Software Defect		191	Local
21Jul2018	16	1-4	RTPD	3	Software Defect		854	Local
21Jul2018	16	1-4	RTPD	2	Software Defect		1	Local
21Jul2018	23	4	RTPD	2	Software Defect		1	Local
22Jul2018	1	10-11	RTD	2	Software Defect		1	Local

22Jul2018	4	3,6-12	RTD	2	Software Defect	1	Local
22Jul2018	5	2-12	RTD	2	Software Defect	1	Local
22Jul2018	6	1-2,4-12	RTD	2	Software Defect	1	Local
22Jul2018	8	1-7,10	RTD	2	Software Defect	1	Local
22Jul2018	17	10	RTD	3,1	Software Defect	222	Local
22Jul2018	17	11	RTD	3,1	Software Defect	206	Local
22Jul2018	17	12	RTD	3,1	Software Defect	203	Local
22Jul2018	17	2-3	RTD	3,1	Software Defect	207	Local
22Jul2018	7,12	1-12	RTD	2	Software Defect	1	Local
22Jul2018	4	3-4	RTPD	2	Software Defect	1	Local
22Jul2018	8	1,3	RTPD	2	Software Defect	1	Local
22Jul2018	1,5-7,12	1-4	RTPD	2	Software Defect	1	Local

The range of corrected Pnode/APnode for the below trade days regarding correction number 1 is 1-53

Date	HE	Intervals	Market	#	Reason	Affected Area
16Jul2018	15	1-2,4-12	RTD	1	Software Defect	Local
16Jul2018	21	2-12	RTD	1	Software Defect	Local
16Jul2018	22	1-4,6-12	RTD	1	Software Defect	Local
16Jul2018	24	1-9	RTD	1	Software Defect	Local
16Jul2018	1-14,16-20,23	1-12	RTD	1	Software Defect	Local
16Jul2018	24	1-3	RTPD	1	Software Defect	Local
16Jul2018	1-23	1-4	RTPD	1	Software Defect	Local
17Jul2018	1	2,4-12	RTD	1	Software Defect	Local
17Jul2018	11	1-4,9-12	RTD	1	Software Defect	Local
17Jul2018	13	1-10,12	RTD	1	Software Defect	Local
17Jul2018	17	1-3,5-6	RTD	1	Software Defect	Local
17Jul2018	19	7-12	RTD	1	Software Defect	Local
17Jul2018	2-10,12,14-16,20-24	1-12	RTD	1	Software Defect	Local
17Jul2018	17	1-2	RTPD	1	Software Defect	Local
17Jul2018	1-16,20-24	1-4	RTPD	1	Software Defect	Local
18Jul2018	8	4-12	RTD	1	Software Defect	Local
18Jul2018	9	1-6,10-12	RTD	1	Software Defect	Local
18Jul2018	10	1-4,7-12	RTD	1	Software Defect	Local
18Jul2018	11	1,3,5-12	RTD	1	Software Defect	Local
18Jul2018	16	1-7	RTD	1	Software Defect	Local
18Jul2018	18	1-9	RTD	1	Software Defect	Local
18Jul2018	19	1-4,6-7,10-12	RTD	1	Software Defect	Local
18Jul2018	20	1-4,6-12	RTD	1	Software Defect	Local
18Jul2018	1-7,12-15,17,21-24	1-12	RTD	1	Software Defect	Local
18Jul2018	1-24	1-4	RTPD	1	Software Defect	Local
19Jul2018	1-24	1-12	RTD	1	Software Defect	Local
19Jul2018	1-24	1-4	RTPD	1	Software Defect	Local
20Jul2018	10	1-6,10-12	RTD	1	Software Defect	Local
20Jul2018	12	1-4,7-12	RTD	1	Software Defect	Local
20Jul2018	20	1,5,7-12	RTD	1	Software Defect	Local
20Jul2018	24	1,4-12	RTD	1	Software Defect	Local
20Jul2018	1-9,11,13-19,21-23	1-12	RTD	1	Software Defect	Local
20Jul2018	1-24	1-4	RTPD	1	Software Defect	Local
21Jul2018	2	1-5,8-12	RTD	1	Software Defect	Local
21Jul2018	11	1-10	RTD	1	Software Defect	Local
21Jul2018	13	1-2,4-12	RTD	1	Software Defect	Local
21Jul2018	15	1-6	RTD	1	Software Defect	Local
21Jul2018	17	1,5-12	RTD	1	Software Defect	Local
21Jul2018	21	1-3,7-12	RTD	1	Software Defect	Local
21Jul2018	23	1-3,7-8,10	RTD	1	Software Defect	Local
21Jul2018	1,3-10,12,14,16,18-20,22	1-12	RTD	1	Software Defect	Local
21Jul2018	15	1-3	RTPD	1	Software Defect	Local
21Jul2018	16	3-4	RTPD	1	Software Defect	Local
21Jul2018	23	1	RTPD	1	Software Defect	Local

21Jul2018	24	2	RTPD	1	Software Defect	Local
21Jul2018	1-13,17-21	1-4	RTPD	1	Software Defect	Local
21Jul2018	14,22	2-4	RTPD	1	Software Defect	Local
22Jul2018	1	4-12	RTD	1	Software Defect	Local
22Jul2018	8	1-8,11-12	RTD	1	Software Defect	Local
22Jul2018	10	2-3,5-12	RTD	1	Software Defect	Local
22Jul2018	17	1,4-9	RTD	1	Software Defect	Local
22Jul2018	18	1-10	RTD	1	Software Defect	Local
22Jul2018	2-7,9,11-16,19-24	1-12	RTD	1	Software Defect	Local
22Jul2018	18	1-2,4	RTPD	1	Software Defect	Local
22Jul2018	1-17,19-24	1-4	RTPD	1	Software Defect	Local

Corrections made through interval replacement: 4

Date	HE	Intervals	Market	#	Reason	Affected Area
18Jul2018	16	8-11	RTD	7,2,1	Software Defect	System

Corrections made through market rerun: 0

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Description of Issues:

1. **Software Defect:**
   - Invalid prices due to a software defect impacting pricing node LMPs.

   Prices were corrected by selective recalculation and interval replacement.

2. **Software Defect:**
   - Invalid SUMMIT_ASR-APND apnode and sp-tie price due to a software defect affecting EIM functionality.

   Prices were corrected by selective recalculation and interval replacement.

3. **Software Defect:**
   - Invalid prices due to a software defect impacting EIM functionality.

   Prices were corrected by selective recalculation.

4. **Data Input Error:**
   - Invalid congestion due to a data input error impacting constraint enforcement.

   Prices were corrected by selective recalculation.

5. **Software Defect:**
   - Invalid prices due to a software defect impacting flexible ramping product and energy prices.

   Prices were corrected by selective recalculation.

6. **Software Defect:**
   - Invalid prices due to a software defect impacting resource dispatch.

   Prices were corrected by selective recalculation.

7. **Software Defect:**
   - Invalid prices due to a software defect impacting RTCD runs.

   Prices were corrected by interval replacement.

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Price Fill Report

A price fill occurs whenever a market run failed to publish to the Settlement system. This usually occurs whenever a market run failed, for example when a market fails to come to a solution. It could also occur when an operator decides that a market is not to be run, for example during a contingency event. Automatic price fills also occur in real-time when an operator chooses to utilize the previous interval's solution for the current interval.

Prices are filled according to the rules in CAISO Tariff section 7.7.9 which states that administrative pricing applies to intervals where we have had a market disruption, and requires the prices to be set differently depending on the number of consective market distrputions.

The number of prices which were adjusted by the fill process is as follows.

Total number of filled price intervals: 13

Date	HE	Interval	Market
17-Jul-18	22	1	RTD
18-Jul-18	16	9	RTD
18-Jul-18	16	10	RTD
18-Jul-18	16	11	RTD
18-Jul-18	17	4	RTD
18-Jul-18	17	5	RTD
19-Jul-18	1	10	RTD
19-Jul-18	4	6	RTD
19-Jul-18	7	4	RTD
19-Jul-18	7	7	RTD
19-Jul-18	12	4	RTD
19-Jul-18	13	6	RTD
19-Jul-18	14	5	RTD

Note: Intervals filled are subject to subsequent price corrections where applicable.